

Writing the equation of a line in Slope-Intercept Form

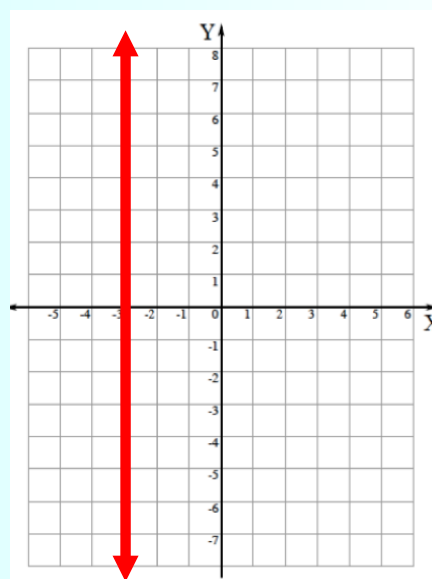
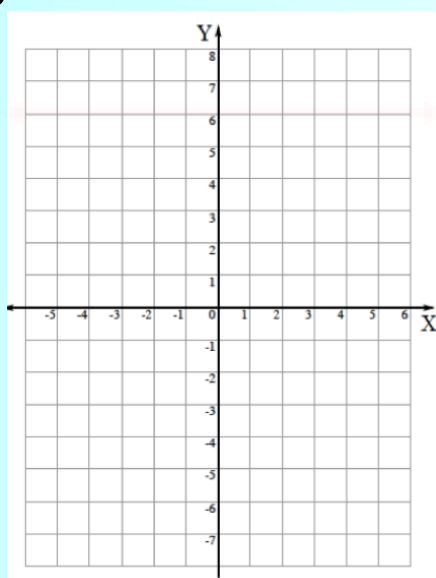
WARM-UP

Graph the following equations:

1. $y = 6$

2. $x = -3$

| x | y |
|----|---|
| -2 | 6 |
| 0 | 6 |
| 2 | 6 |

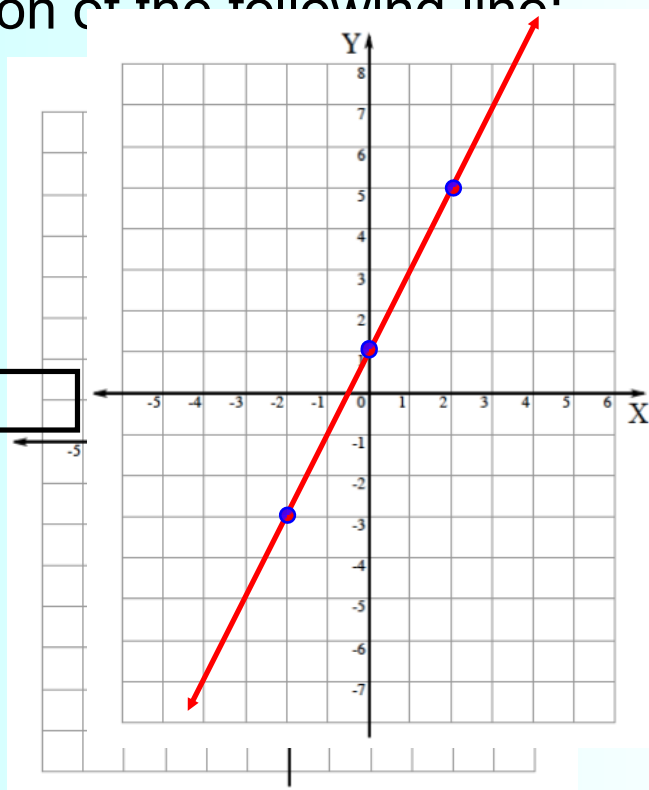
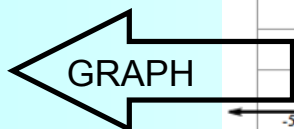


| x | y |
|----|----|
| -3 | -2 |
| -3 | 0 |
| -3 | 2 |

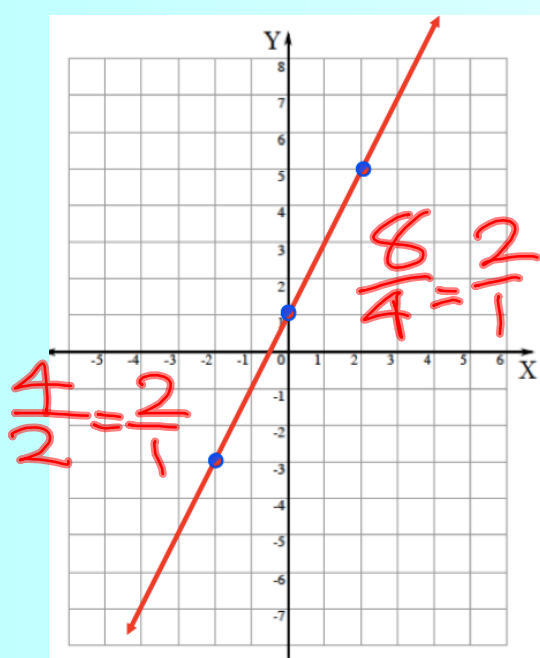
GRAPH the equation of the following line:

$$y = 2x + 1$$

| x | y |
|----|----|
| -2 | -3 |
| 0 | 1 |
| 2 | 5 |



$$y = 2x + 1$$



With your partner...
Compare the graph and the equation!

What do you notice?

What is the slope on the graph?

What is the other number in the equation?

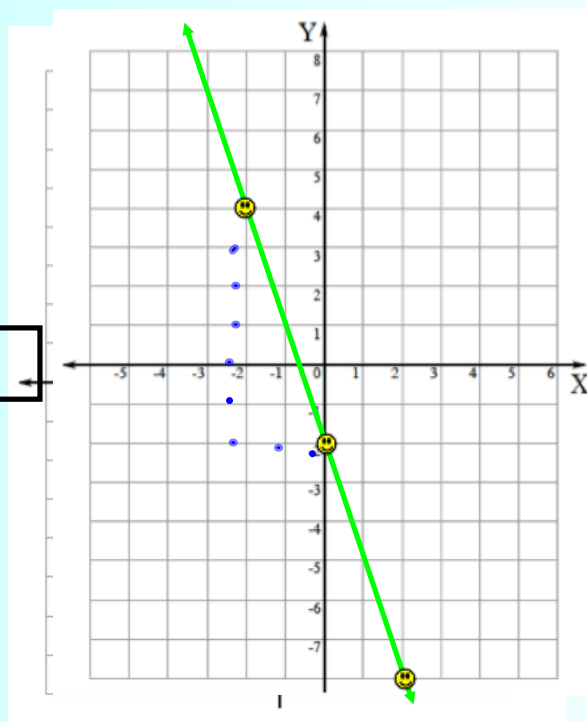
Make a conjecture: How are the slope and the other number represented on the graph?

GRAPH the equation of the following line:

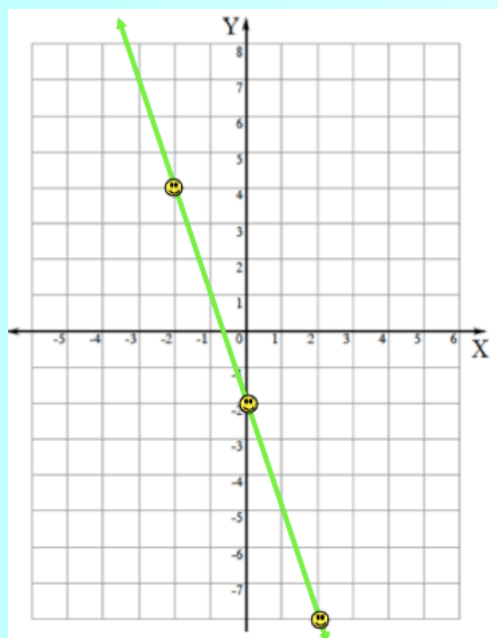
$$y = -3x - 2$$

| x | y |
|----|----|
| -2 | 4 |
| 0 | -2 |
| 2 | -8 |

Graph



$$y = -3x - 2$$



With your partner...
Compare the graph and the
equation!

What do you notice?

Were your conjectures right?

What do you think will be true
about this graph:

$$y = 1/2x + 6$$

In your math dictionary....

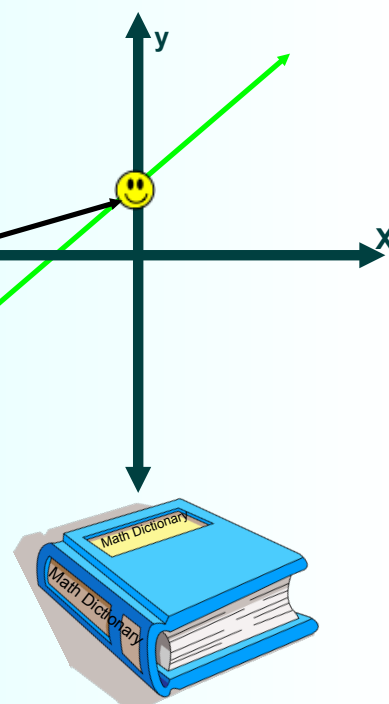
Slope-Intercept Form:

$$y = mx + b$$

m = slope b = y-intercept

y- intercept:

point where the line
crosses the y- axis



1. Write the equation of a line that has a slope of 10 and a y-intercept of 7.

$$y = 10x + 7$$

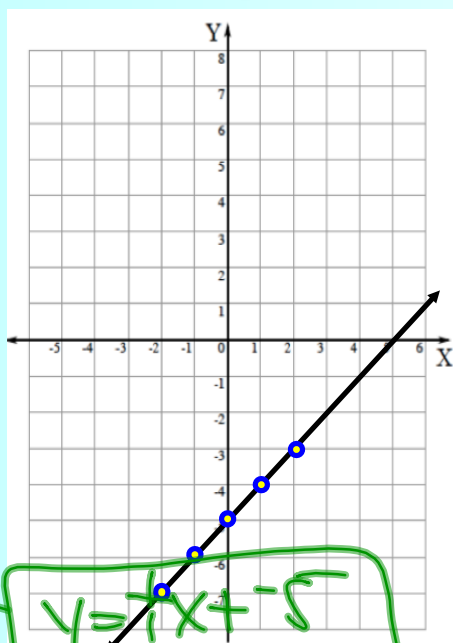
2. Write the equation of a line if $m = -1/4$ and $b = -7$

$$y = -1/4x + -7$$

OR

$$y = -1/4x - 7$$

Write the equation of the following lines:



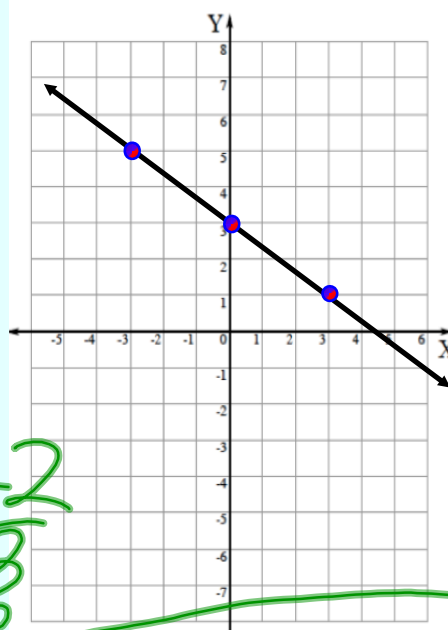
$$m = 1$$

$$b = -5$$

equation:

$$y = 1x + -5$$

$$y = 1x - 5$$



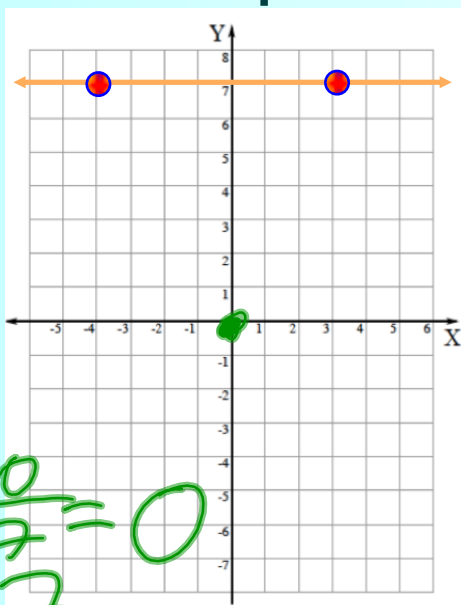
$$m = -\frac{2}{3}$$

$$b = 3$$

equation:

$$y = -\frac{2}{3}x + 3$$

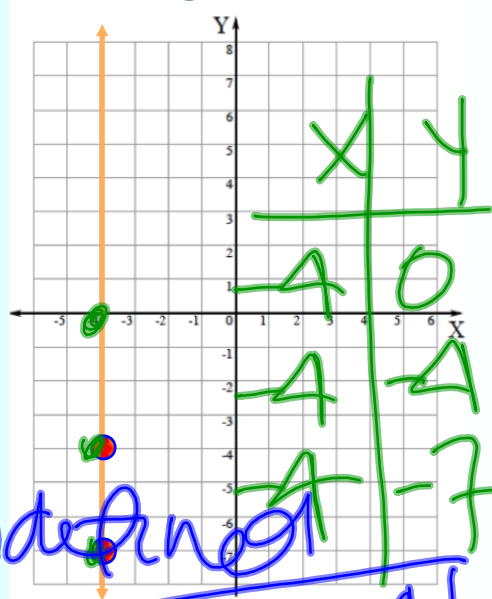
Write the equation of the following lines:



$$m = \frac{0}{7} = 0$$

$$b = 7$$

$$\text{equation: } y = 0x + 7$$

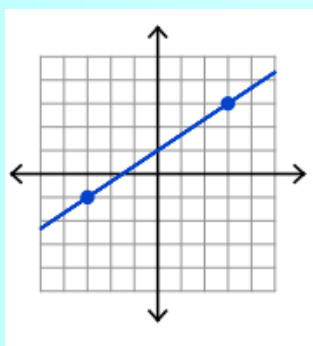


$$m = \text{undefined}$$

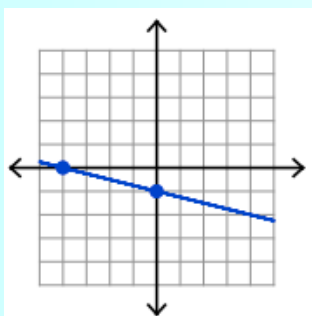
$$b = \text{NONE}$$

$$\text{equation: } \boxed{x = -4}$$

On your own! Write the equation of each line.



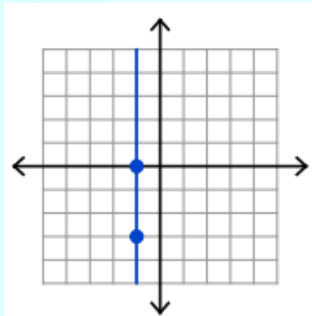
$$y = \frac{2}{3}x + 1$$



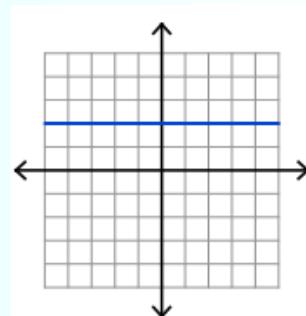
$$y = -\frac{1}{4}x + 1$$

OR

$$y = -\frac{1}{4}x - 1$$



$$x = -1$$



$$y = 0x + 2$$

OR

$$y = 2$$

Homework: Worksheet Day 2

